

REMARKS

In this response, claims 3, 4, 10, 16, and 18 have been amended, and claims 1-2, 15, and 17 have been canceled. Claims 3-14, 16, and 18 therefore remain for consideration in this application. Claims 3 and 4 were amended to change their dependencies. Claims 10, 16, and 18 have been re-written in independent form incorporating all of the limitations of their base claims, and have been indicated as allowable if so re-written.

In the Office Action, the Examiner objected to the drawings because of the inconsistent use of reference numerals 112 and 116. Applicant has changed occurrences of numeral 116 referring to the vessel to refer to the vessel 112 in paragraphs [0041], [0080], [0082], and [0086] so that all instances refer to the vessel body. Also, paragraph [0042] has been amended to properly identify the locking arm as element 106 instead of element 112. Further, to correct other issues noted in previous prosecution of the parent case of the present application, a description has been added to the specification paragraph [0047] for reference numeral 136, the wiring that connects the registration mechanism to the motor. This element appeared in the original figures. No new matter has been added.

Still further, in the drawings, reference character "144 and 146" has been used to designate both ends and locking ports and locking opening. The ends have been assigned numbers 145 and 147 respectively in paragraph [0036], and red line drawings indicating the proposed change are submitted herewith for approval. Paragraph [0084] has been amended to label the cap rotator as 1516 rather than 516.

Claim Rejections Under 35 U.S.C. § 112

Claim 4 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant submits that a cap rotator can be present on the structure of the device without all of the vessels having caps, and that therefore, the claim is definite and the device can function when some of the vessels do not have caps but others do.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-3, 6, 9, 15 and 17 were rejected under 35 U.S.C. § 102(b) as being anticipated by Tarlow et al. (U.S. Patent No. 4,819,102). Claims 1, 15, and 17 have been canceled, and the dependencies of claims 3 and 4 amended, rendering the rejection moot.

Claim Rejections Under 35 U.S.C. § 103

Claims 7-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tarlow et al. as applied to claims 1-3, 6, 9, 15 and 17 above and in view of Long, Jr. (U.S. Patent No. 6,059,134). Claims 7-9 now depend directly or indirectly from allowable claim 10, and are also believed allowable.

Claims 4-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tarlow et al. as applied to claims 1-3, 6, 9, 15 and 17 above and in view of Ouellette (U.S. Patent No. 3,803,795). Claims 4-5 now depend directly or indirectly from allowable claim 10, and are also believed allowable.

Allowable Subject Matter

Claims 10-14, 16 and 18 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. Applicant has amended claims 10, 16 and 18 as suggested by the Examiner. Applicant thus respectfully requests reconsideration and withdrawal of the objection, and allowance of claims 10-14, 16 and 18.

CONCLUSION

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 312-2203.

Respectfully submitted,

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REMARKS*Amendments to the Specification*

Please amend the specification as follows:

In the Specification:

Please amend paragraph [0036] as follows:

[0036] Base 102 serves as a support for the remaining components of the mixing and pouring apparatus 100. Base 102 includes on one embodiment guide pin openings 132 capable of receiving a supplemental vessel and cap cradle for use in a pouring operation to be described later. Locking arm support 104 includes openings for receiving a support or supports for the locking arm 106 at its ends ~~144~~ 145 and ~~146~~ 147. Shaft 134 of locking arm support 104 is fixedly connected to drive mechanism 108 and locking arm 106 for effecting motion of locking arm 106 in response to operation of the drive mechanism 108.

Please amend paragraph [0041] as follows:

[0041] The partial vacuum is also applied when the contents of the vessel 112 are being poured out so that the vessel 112 will not fall out of the mixing and pouring station 100 as it is being tipped. In this way, the vessel ~~116~~ 112 can be rotated beyond a horizontal position without slipping out, and its contents emptied out completely, or sufficiently to remove excess material while leaving desirable material in the vessel 112.

Please amend paragraph [0042] as follows:

[0042] In other embodiments, other apparatuses for holding vessels such as vessel 112 within the locking arm 106 include by way of example only and not by way of limitation clamps, threads, clips, pins, and the like. It is sufficient that the vessels be held in the locking arm 112 so that if inverted, the vessels will not fall out of the locking arm ~~112~~ 106.

Please amend paragraph [0047] as follows:

[0047] Motor 130 and drive mechanism 108 in one embodiment have a registration mechanism to ensure that the locking arm begins its operational processes from the same position each time the apparatus 100 is started. Such registration mechanism is shown in greater detail in Figs. 2, 6, and 7. A registration disk 137 is fixedly attached to shaft 134, so that registration disk 137 will rotate when shaft 134 rotates as described above. Registration disk 137 has therein along its circumference a registration slot 139 extending inward from the outer edge toward shaft 134. In the position shown in Fig. 6, the registration slot is aligned with optocoupler 138 when the locking arm 106 is substantially vertical with respect to the plane 131 of the base 102 of apparatus 100. The registration mechanism is connected to the motor 130 by suitable wiring 136. The registration mechanism is connected to the motor 130 by suitable wiring 136.

Please amend paragraph [0080] as follows:

[0080] Fig. 15 shows a shuttle device 1510 which is used to store the cap 114 and vessel ~~116~~ 112. The cap 114 and vessel 112 can be stored in the shuttle device 1510 when not in use, or for transport during any type of procedure. Such procedure can be any type of manual or automated procedure. As Fig. 15 shows, the shuttle device 1510 contains pairs of identical holes for storing a vessel 112 and its corresponding cap 114. The shuttle device 1510 comprises the same type of holes 140, each with a step or locking pocket 142 as the mixing and pouring device 100 discussed in Fig. 1. The locking pocket 142 is designed to be the same size and depth as the flanges, i.e., cap flange 128 and vessel flange 118. The shuttle device 1510 can contain any number of holes 140 as desired for a particular application. In one embodiment, there are four (4) pairs of holes 140 to support four pairs of vessels and caps.

Please amend paragraph [0082] as follows:

[0082] In one embodiment, the caps 114 are picked up simultaneously and automatically by a series of cap rotators 1516, placed on the vessel ~~116~~ 112 and rotated 180 degrees. Each cap rotator 1516 comprises a cap rotator body 1518 and two blades or fingers 1520. The blades 1520 can be made from any suitable material, such as replaceable tool steel. In one embodiment, the

blades 1520 are secured to the rotator cap body 1518 with a suitable connector 1522. Each cap rotator 1516 further has an internal suction cup (not shown) to hold the cap 114 firmly in place as it is being transported or rotated. Any number of cap rotators 1516 can be used so that multiple caps 114 can be picked up and moved simultaneously.

Please amend paragraph [0084] as follows:

[0084] In the embodiment shown in Fig. 15, each of the holes 140 further have recesses 1524 on opposing sides into which the opposing blades 1520 on the cap rotator 1516 slide to pick up the cap 114 in order to move it out of the locking pocket 142. The process is completed in reverse when it is desired to remove the cap 114. In other words, the cap 114 is rotated 180 degrees in the reverse direction and returned to the locking pocket 142 in the same position it began. The screwing and unscrewing of the cap 114 and placement in the locking pocket 142 can also be completed manually. In one embodiment, bar codes are used to identify the vessel 112 and cap 114 so that the same cap 114 is always used with the same vessel 112. This helps to ensure that there is no contamination or cross-contamination, although in most embodiments all of the vessels 112 and caps 114 are made with the same die so that the caps and vessels are interchangeable.

Please amend paragraph [0086] as follows:

[0086] The shuttle device 1510 can also transport vessel and cap assemblies 110 to the mixing and pouring station 100 described above, as shown in Fig. 16. The holes 140 with opposing recesses 1524 as well as the locking pocket 142 are the same as shown in previous figures. By locking the flanges, 128 and 118, in place in this way, the assembly 110 does not come loose and start to reposition itself during a shaking or pouring step. Any suitable number of assemblies 110 can be placed in the mixing and pouring station 100. In one embodiment, eight assemblies 110 are placed in this device. The assemblies 110 can be moved to this location manually or automatically, such as with the cap rotator 1516 as shown. In the embodiment shown in Fig. 16, the vacuum port 144 serves to further secure the vessel ~~116~~ 112 in place, particularly when the cap 114 is being rotated on or off.

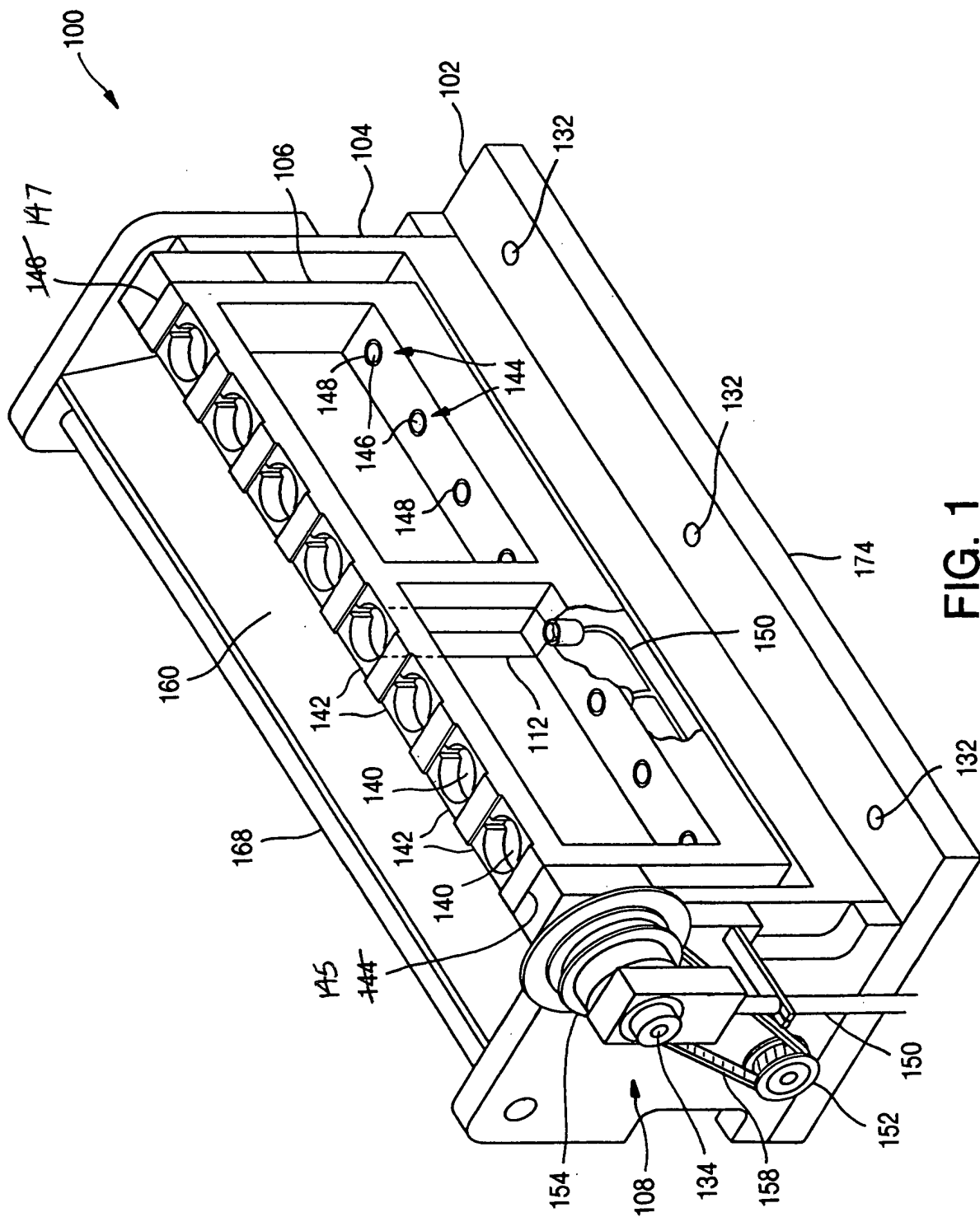


FIG. 1